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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/367,423	08/12/1999	JAMES L. FERGASON	LAMP102WOUS	4332

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EXAMINER

TRAN, HENRY N

ART UNIT

PAPER NUMBER

2674

DATE MAILED: 05/02/2003

25

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/367,423

Applicant(s)

FERGASON, JAMES L.

Examiner

HENRY N. TRAN

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 05 February 2003.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☐ Claim(s) 103-132 is/are pending in the application.
- 4a) Of the above claim(s) 103,104,106,114-122 and 126 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 105,107-113 and 123-125 is/are rejected.
- 7) ☒ Claim(s) 127-132 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 12 August 1999 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☒ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892) 4) ☐ Interview Summary (PTO-413) Paper No(s). _____
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948) 5) ☐ Notice of Informal Patent Application (PTO-152)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____ 6) ☐ Other:

DETAILED ACTION

This Office action is in response to the applicant's response filed 2/5/03 (paper no. 14). The Election to the claims and applicant's remarks were considered, with the results set forth as following.

Election/Restrictions

1. Applicant's election with traverse of Group II, including claims 105, 107-113, 123-125, and 127-132 in Paper No. 14 is acknowledged. The traversal is on the grounds that there are similar features recited in different groups, e.g., the size or birefringence characteristics of the liquid crystal material of the liquid crystal display device and of the liquid crystal material of the liquid crystal display device used in a projection system (claims 117, 118 and 119 of group I, and claims 123, 124, 128, 129, 131 and 132 of group II), the mask of the liquid crystal display device and of the liquid crystal display device used in a projection system (claims 114, 115 and 116 of group I, and claims 105 and 125 of group II), and elected claim 105 (group II) is dependent upon independent claim 106 (group I). This is not found persuasive because of the following reasons: (i) Group I: Claims 103, 104, 106, 114-122, and 126 are directed to a liquid crystal display; which is classified in class 345/107; (ii) Group II: Claims 105, 107-113, 123-125, and 127-132 are directed to a projector; which is classified in class 349/10; and (iii) Because these inventions (I and II) are distinct for the reasons given above and have acquired a separate status in the art as shown by their different classification, restriction for examination purposes as indicated is proper.

The requirement is still deemed proper and is therefore made FINAL.

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2. Claims 103, 104, 106, 114-122, and 126 of group I are withdrawn from further consideration pursuant to 37 CFR 1.142(b), as being drawn to a nonelected invention, there being no allowable generic or linking claim. Applicant timely traversed the restriction (election) requirement in Paper No. 14

3. This application contains claims 103, 104, 106, 114-122, and 126 of group I are drawn to an invention nonelected with traverse in Paper No. 14. A complete reply to the final rejection must include cancellation of nonelected claims or other appropriate action (37 CFR 1.144) See MPEP § 821.01.

4. The claims 105, 107-113, 123-125, and 127-132 of group II of the elected invention are examined in this Office action.

Claim Objections

5. Claim 105 is objected to because of the following informalities: Claim 105 is directed to a Schlieren projection display system, which is dependent upon non-elected claims 103 and 106. Claim 105 is required to rewritten in independent form including all of the limitations of the base claim 106 and the intervening claim 103.

Appropriate correction is required.

6. Claims 127-129 are objected to because of the following informalities: Claims 127-129 are directed to a projection system; which are dependent upon non-elected claim 106. Claims 127-129 are required to rewritten in independent form including all of the limitations of the base claim 106 and any intervening claim(s) 127 and 128.

Appropriate correction is required.

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7. Claims 130-132 are objected to because of the following informalities: Claims 130-132 are directed to a projection system; which are dependent upon non-elected claim 114. Claims 130-132 are required to be rewritten in independent form including all of the limitations of the base claim 114 and any intervening claim(s) 130 and 131.

Appropriate correction is required.

8. Claim 110 is objected to because of the following informalities: Claim 110 recites the limitation "lc" in line 1. The claim is objected to because it includes an abbreviation or a Reference character "lc" which is not enclosed within parentheses.

Reference character corresponding to element recited in the detailed description of the drawings and used in conjunction with the recitation of the same element or group of elements in the claims should be enclosed within parentheses so as to avoid confusion with other numbers or characters which may appear in the claims. See MPEP § 608.01(m).

Claim Rejections - 35 USC § 112

9. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

10. Claims 105 and 107-113 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

11. Regarding claim 105, claim 105 recites the limitation "said liquid crystal and medium" in line 3. There is insufficient antecedent basis for this limitation in the claim.

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12. Regarding claims 107-113, claim 107 recites the limitation "the medium" in line 3. There is insufficient antecedent basis for this limitation in the claim. Claims 108-113 are dependent upon the base claim 107, and are held "insufficient antecedent basis" by the same reason indicated in claim 107.

Claim Rejections - 35 USC § 103

13. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

14. Claims 123-125 are rejected under 35 U.S.C. 103(a) as being unpatentable over Takizawa (U.S. Patent 5,260,815) in view of Inoue et al (U.S. Patent 6,246,456).

Takizawa teaches a projection system in which an image is formed from a nonspecular light, comprising: a collimated light input; a liquid crystal device 1; a projection optics comprising lenses 6, 6' and a mirror 9; means 10 (an aperture 10) to block the specularly transmitted light. However, Takizawa does not teaches: (i) a mask at selected areas of the liquid crystal device for transmitting light without substantially scattering; and (ii) the liquid crystal material is controlled to a birefringence of 0.12 or less, a size of the volumes to about 5 microns or less. Inoue et al teach a liquid crystal device having a low birefringence liquid crystal material for volumes 4 (droplets 4), whose size is about 3.0mm or less, and a mask of spacers 3 at selected areas of the liquid crystal device for transmitting light without substantially scattering (see figure 2; col. 3, line 56 to col. 4, line 3) (see figure 1; col. 7, lines 31-34, lines 64-66). It would have been obvious to one of ordinary skill in the art at the time the invention was made to

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utilize the liquid crystal device as taught by Inoue et al for the liquid crystal device of Takizawa's projection system because this would provide a liquid crystal panel in which light leakage in the black mode is reduced and which presents uniform and high-contrast display of images (see Inoue et al, Abstract). By this rationale, claims 123-125 are rejected.

Response to Arguments

15. Applicant's arguments regarding to the *Election/Restrictions* for claims 103-132 have been considered, and found not persuasive because of the reasons indicated in paragraph. 1 above.

Conclusion

16. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. See form PTO-892.

17 Any inquiry concerning this communication or earlier communications from the examiner should be directed to HENRY N. TRAN whose telephone number is (703) 308-8410. The examiner can normally be reached on Mon - Fri from 8:00AM - 4:30PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, RICHARD A. HJERPE, can be reached at (703) 305-4709.

Any response to this action should be mailed to:

Commissioner of Patents and Trademarks

Washington, D.C. 20231

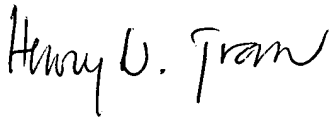
or faxed to:

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(703) 872-9314 (for technology Center 2600 only)

Hand-delivered responses should be brought to Crystal Park II, 2121 Crystal Drive,
Arlington, VA, Sixth Floor (Receptionist).

Any inquiry of a general nature or relating to the status of this application or proceeding
should be directed to the Technology Center 2600 Customer Service Office Whose telephone
number is (703) 306-0377.



HENRY N. TRAN
Examiner
Art Unit 2674

hnt
April 29, 2003